

TOP SECRET

PIR

PHOTOGRAPHIC INTERPRETATION REPORT



VITAL RECORDS COPY

**EMBA
MISSILE TEST CENTER
USSR**

25X1

SEPTEMBER 1965

COPY 06

19 PAGES

25X1

GROUP 1 EXCLUDED FROM
AUTOMATIC DOWNGRADING
AND DECLASSIFICATION

TOP SECRET

Page Denied

TOP SECRET CHESS RUFF

25X1

PHOTOGRAPHIC INTERPRETATION REPORT

**EMBA
MISSILE TEST CENTER
USSR**

SEPTEMBER 1965

NATIONAL PHOTOGRAPHIC INTERPRETATION CENTER

TOP SECRET CHESS RUFF

25X1

TOP SECRET CHESS RUFF

25X1

INTRODUCTION

This report presents an update of photo interpretation on the Emba Missile Test Center (Figures 1 and 2), since December 1963 as published in NPIC/R-191/64, March 1964. 1/ Excellent-quality KH-7 photography of January [] and May 1965 [] provided our best look to date at the majority of the facilities of the test center (formerly designated Emba Missile-Associated Installation, [])

Emba was first identified [] and has been covered on 14 subsequent missions. The first NPIC detailed report concerning this center was NPIC/R-159/63, 2/ which was later updated by NPIC/R-191/64. 1/ This report covers the 9 missions since NPIC/R-191/64 and provides a detailed description of the facilities from the larger scale, KH-7 photography []

Table 1. Geographic Coordinates of Components of Emba Missile Test Center

Launch Area	48-31-05N	58-01-25E
Unidentified Support Area	48-30-40N	58-02-05E
Operational Support Area	48-42-30N	58-05-20E
Instrumentation Sites 1 & 2	48-33-35N	58-02-50E
Instrumentation Site 3	48-33-05N	58-03-10E
Instrumentation Site 5	48-28-35N	58-04-45E
Instrumentation Site 6	48-11-15N	58-16-55E
Instrumentation Site 7	47-55-20N	58-16-30E
Instrumentation Site 8	48-09-30N	57-30-00E
Instrumentation Site 9	48-27-20N	57-42-45E
Instrumentation Site 10	48-30-45N	57-58-10E
Electronics Site	48-36-15N	58-06-55E
Support Area A	48-46-00N	58-04-40E
Support Area B	48-34-30N	58-03-00E
Airfield	48-44-00N	58-03-00E
Cleared Strip	48-40-00N	58-00-00E

LAUNCH-ASSOCIATED FACILITIES**Launch Area**

The Launch Area (Figures 3 and 4) at the Emba Missile Test Center is located approximately 11.5 nm southwest of the Operational Support Area and is road served from that area. The Launch Area is relatively heavily secured with double security fences approximately 170 feet apart, corner guard towers, and cleared strips between the fences and around the outer fence. The area remains unchanged from coverage [] but the larger scale of [] permits greater detail to be discerned.

Observed within the area [] (Figure 3) were a probable BAR LOCK radar, 5 electronics vans, unidentified pieces of electronics equipment, 2 probable communications vehicles, 2 van-mounted antennas, 1 associated generator van, and at least 50 unidentified vehicles/pieces of equipment. [] revealed a probable GANEF missile on a transporter-launcher approximately 20 feet in length, located in the center of the western launch pad (A-1). Another transporter-launcher was in the center of the eastern pad (A-2) but the presence of missiles could not be determined because of haze and obliquity. An unidentified vehicle/piece of equipment was located on each pad behind the transporter-launchers. At least 16 vehicles/pieces of equipment were observed on the hardstand in front of the control bunker, with at least 35 additional vehicles/pieces of equipment present within the launch area.

The outer fence measures 1,980 by 1,390 feet, with the loop road pattern measuring 950 by 690 feet. The 2 launch pads measure approximately 90 by 85 feet, with an approximately 35-foot paved overrun on the forward inner corner. Mensuration [] when objects were present on the pads, gave an 820-foot (250-meter) separation between

25X1

25X1

25X1

25X1

25X1

25X1

25X1

25X1

25X1

TOP SECRET CHESS RUFF

TOP SECRET CHESS RUFF

25X1

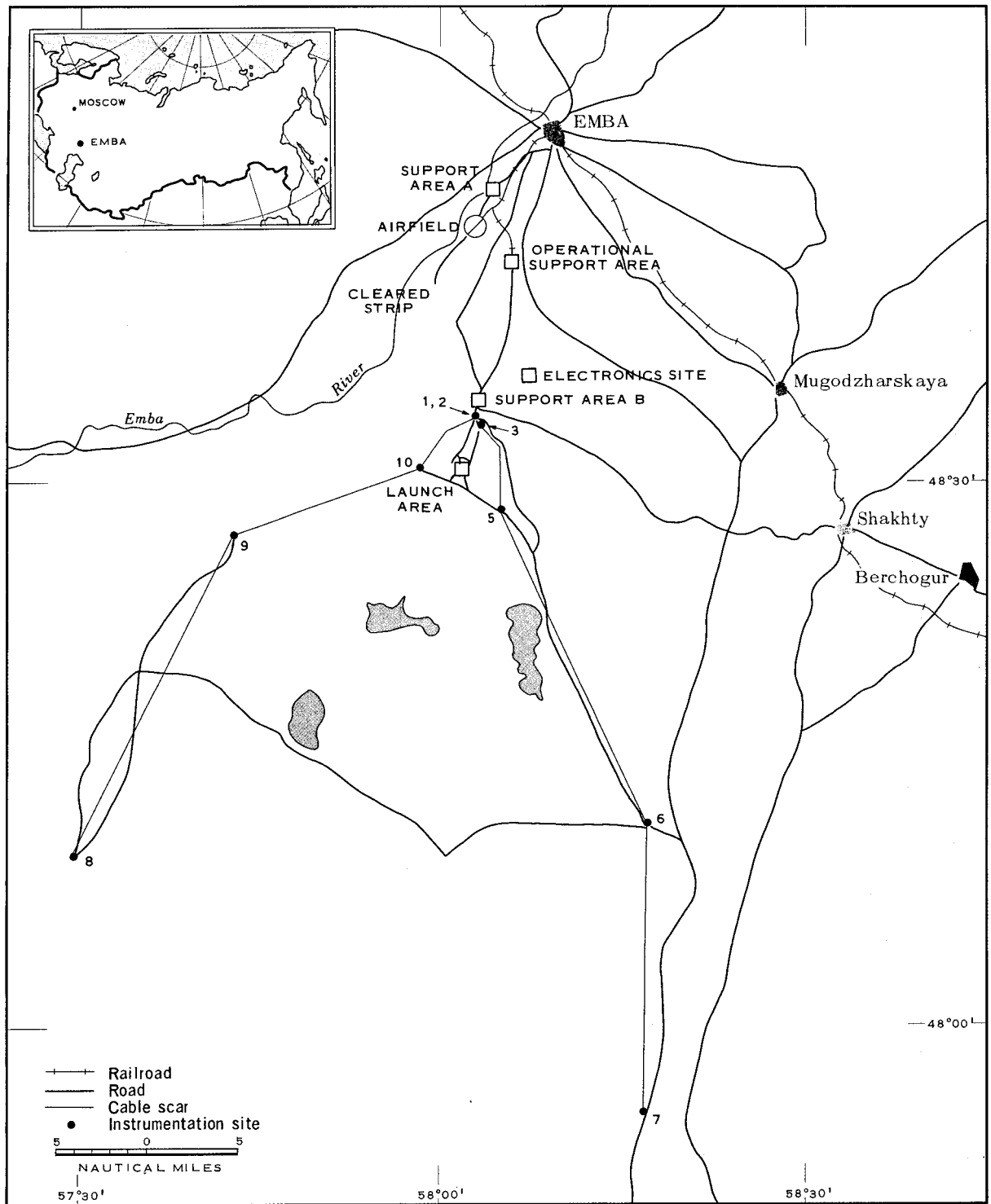


FIGURE 1. EMBA MISSILE TEST CENTER.

NPIC K-4619 (9/65)

TOP SECRET CHESS RUFF

25X1

TOP SECRET CHESS RUFF

25X1

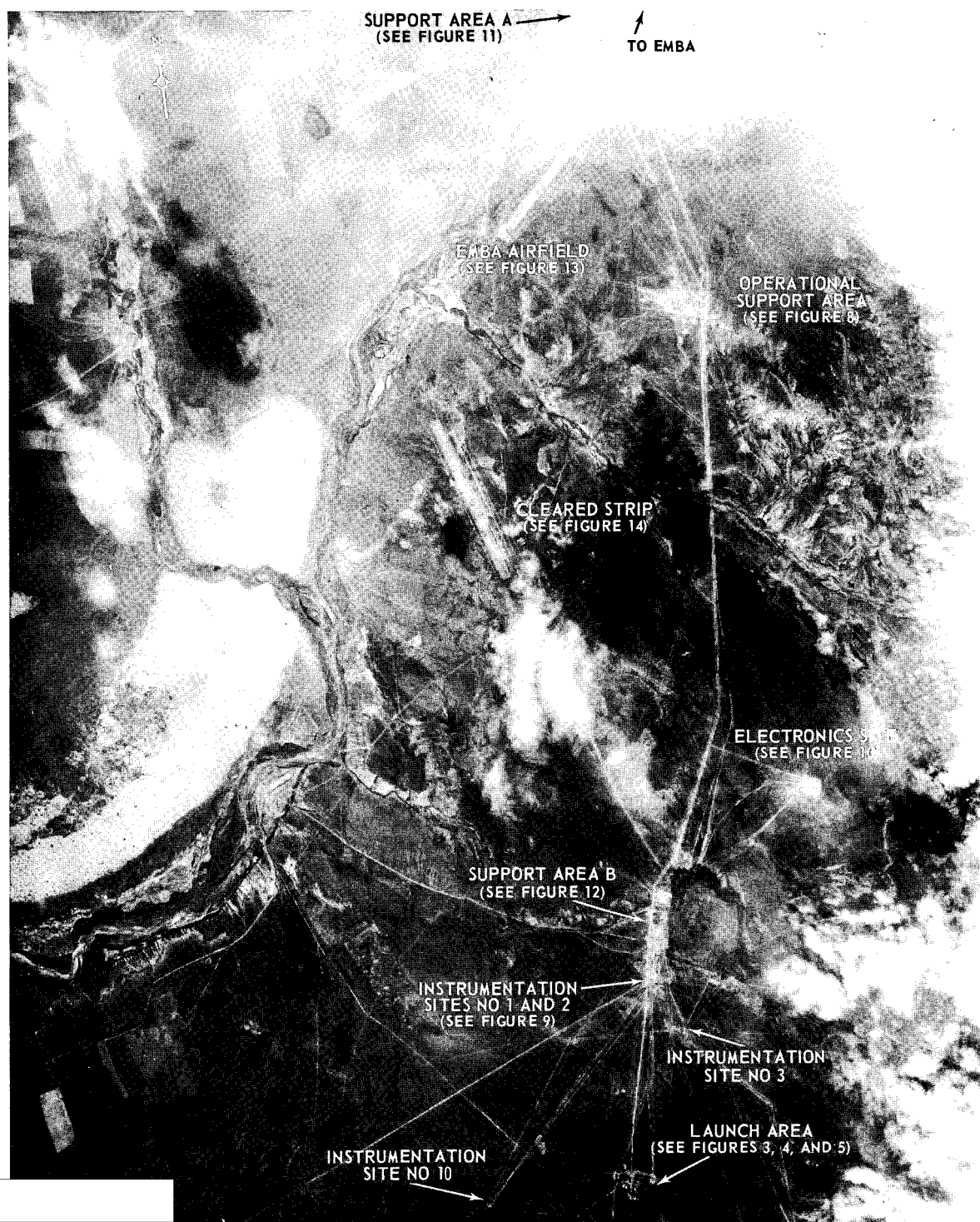


FIGURE 2. EMBA MISSILE TEST CENTER, MAY 1965.

NPIC K-4620 (9/65)

25X1

TOP SECRET CHESS RUFF

25X1

TOP SECRET CHESS RUFF

25X1

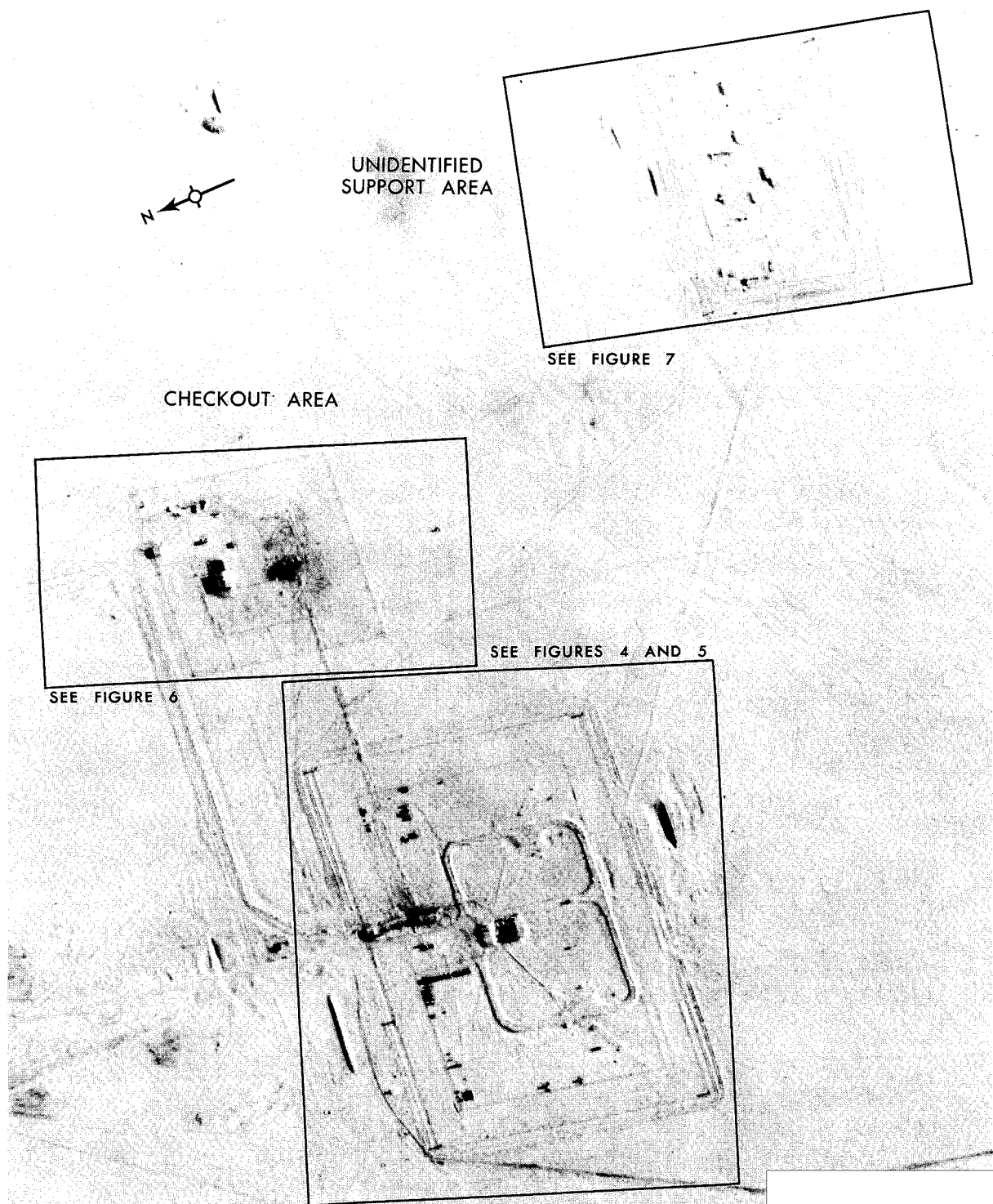


FIGURE 3. LAUNCH AREA AND RELATED ACTIVITIES.

25X1

TOP SECRET CHESS RUFF

25X1

TOP SECRET CHESS RUFF

25X1

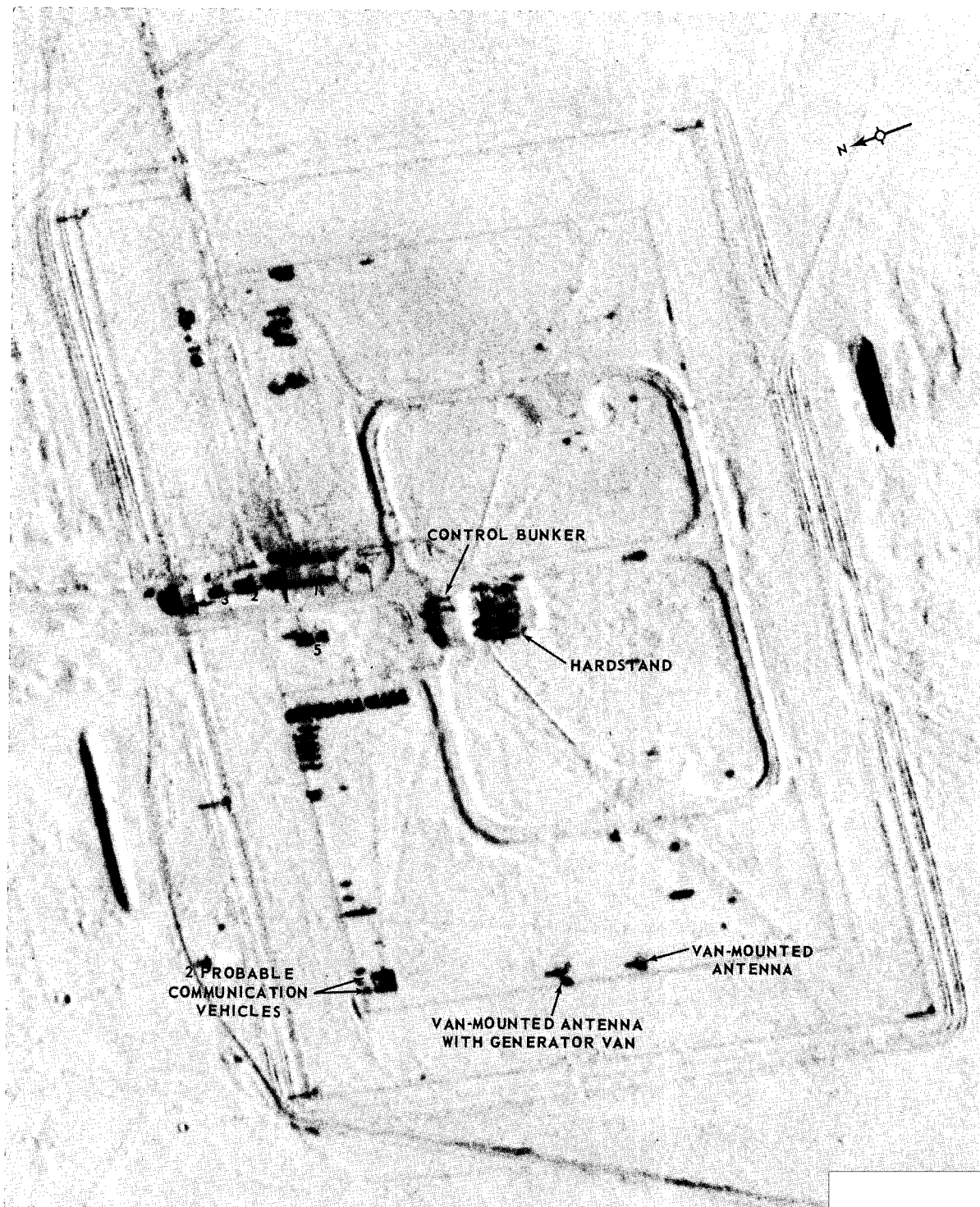


FIGURE 4. LAUNCH AREA, JANUARY 1965. Key to annotations in accompanying text.

25X1

TOP SECRET CHESS RUFF

25X1

TOP SECRET CHESS RUFF

objects on the pads, which would probably be the separation between launch points. The earth-mounded control bunker, which is connected to each launch pad by a conduit, has a top measurement of 85 by 45 feet. Two entrances are visible on the north side and 2 unidentified objects are positioned on the top. Immediately south of this bunker there is a hardstand measuring approximately 145 by 110 feet which on [redacted] contained at least 10 unidentified vehicles/pieces of equipment.

Key to annotations in Figure 4:

Item No	Size (ft approx)	Description
1	115 x 30	Flat-roofed, 8-bay probable vehicle shed
2	25 x 25	Flat-roofed, unidentified support
3	25 x 15	Flat-roofed, unidentified support
4	45 x 30	Flat-roofed, typical security building
5	25 x 20	Possible pumphouse

Checkout Area

This area (Figure 6), which was previously called an unidentified support area, was shown to be a checkout area by photo coverage obtained [redacted]. It is located approximately 1,800 feet east-northeast of the launch area and is heavily secured by 2 fences having an approximate separation of 170 feet. It is road-served, connecting with the road leading into the launch area. A buried line runs from the heatplant in the checkout area to the probable vehicle shed in the launch area. The largest structure in the area is a two-bay, drive-through, final assembly and checkout building.

Key to annotations in Figure 6:

Item No	Size (ft approx)	Description (All are single story)
1	35 x 30	Flat-roofed, typical security building
2	80 x 60	Drive-through building
3	50 x 35	Flat-roofed heatplant with adjacent stack
4	20 x 15	Flat roof, unidentified function
5	20 x 15	Flat roof, unidentified function

Unidentified Support Area

An unidentified support area (Figure 7) is located approximately 3,300 feet east-southeast of the Launch Area. This area was present on the first coverage of June 1962 [redacted] and at that time was identified as a possible launch area. Two concrete hardstands are located in the southern part of the 1,080- by 620-foot, double-fence secured area. There are guard towers in the southeast and northwest corners. There are also a third possible fence and probable light towers between the 2 fences. Snow cover [redacted] precluded a readout of the hardstands. There is 1 centrally located, drive-in bunker which may have been utilized as a control bunker if the area formerly was a launch area. The area is served only by unimproved trails from the launch area and the checkout area.

Also contained within the area are 4 mounds/bunkers arranged in an east-west row and 3 underground entrances or bunkers. This area may presently have a storage function.

Photo coverage [redacted] revealed no significant change or activity [redacted]

Operational Support Area

The Operational Support Area (Figure 8) has been enlarged since [redacted] June 1964. A new, unidentified, fence-secured area is under construction adjacent to the west side of the area. To the north existing fences have been extended to include an area containing 3 completed buildings, 1 building under construction, an earth-walled basin measuring 160 by 160 feet and, [redacted] (May 1965), over 175 vehicles/pieces of equipment. One additional handling building has also been added in the original portion.

The unidentified area to the west, as seen [redacted] could be either underground liquid storage, building foundations or some form of instrumentation under construction. The first evidence of this area appeared [redacted] when preliminary clearing for the fence-line, 2 buildings, and a linear scar appeared. Coverage [redacted] revealed a system of open

TOP SECRET CHESS RUFF

25X1



FIGURE 5. LAUNCH AREA, MAY 1965.

25X1

TOP SECRET CHESS RUFF

25X1

TOP SECRET CHESS RUFF

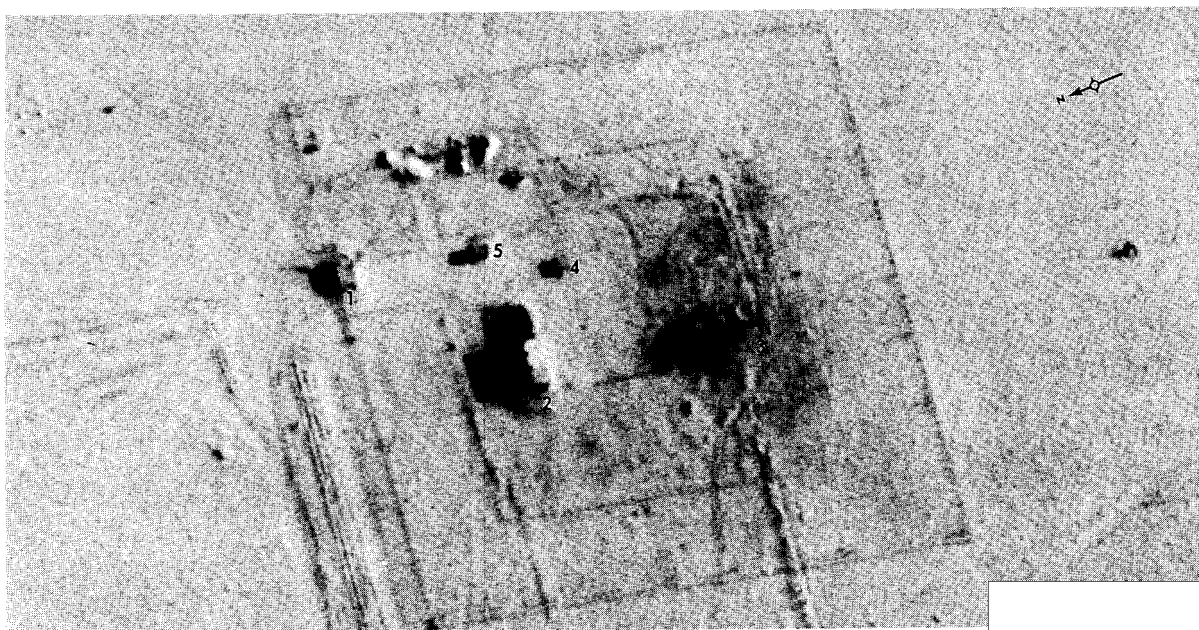


FIGURE 6. CHECKOUT AREA. Key to annotations in accompanying text.

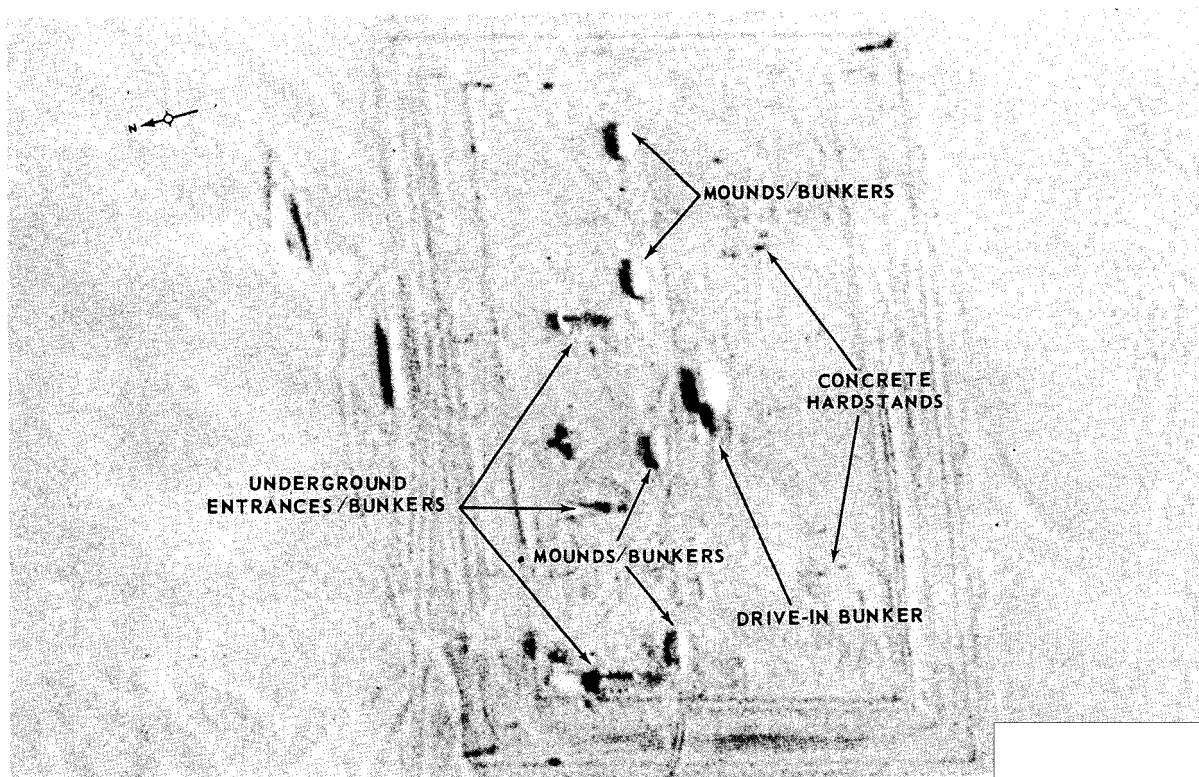
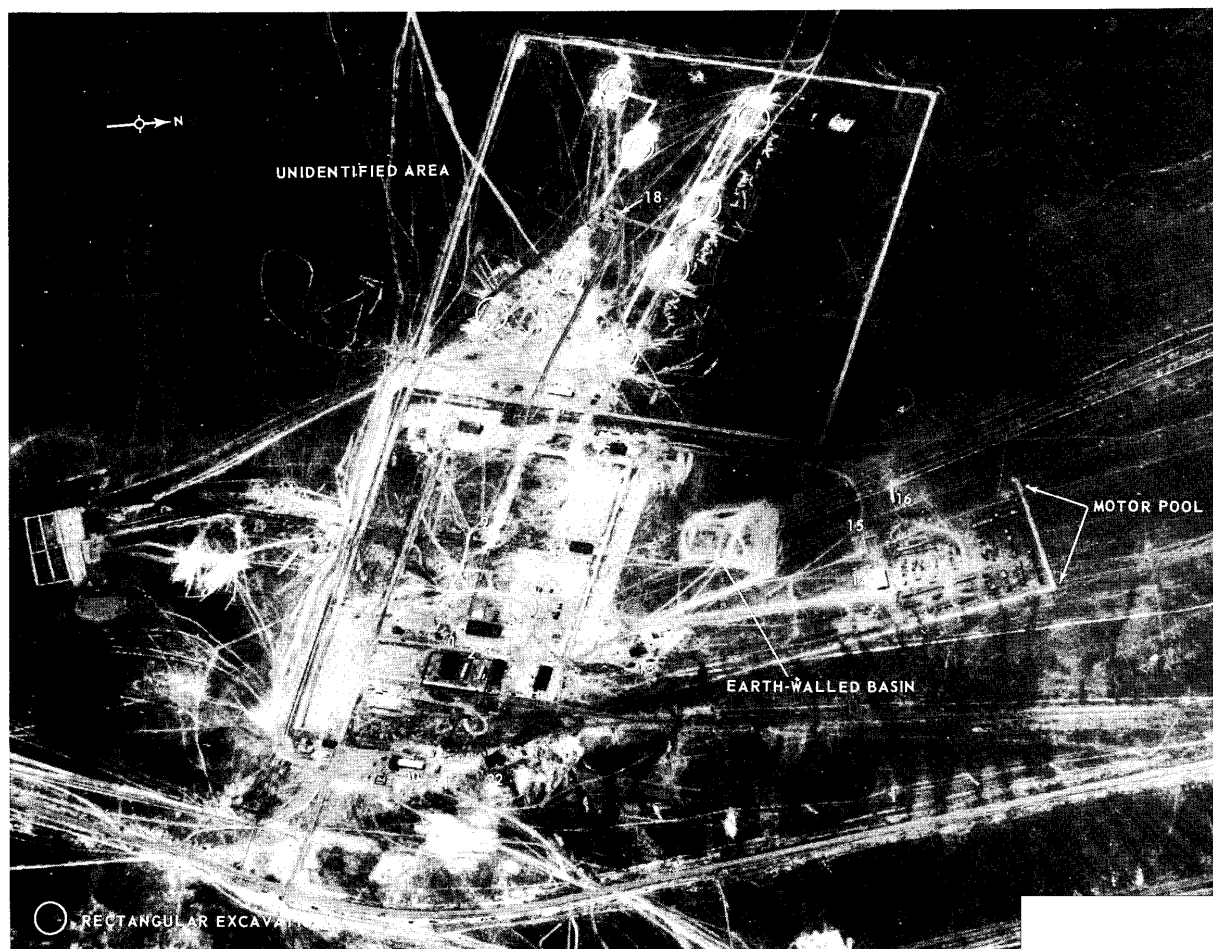


FIGURE 7. UNIDENTIFIED SUPPORT AREA.

TOP SECRET CHESS RUFF



NPIC R-4626 (9/65)

FIGURE 8. OPERATIONAL SUPPORT AREA. Key to annotations in accompanying text.

TOP SECRET CHESS RUFF

25X1

TOP SECRET CHESS RUFF

25X1
25X1

25X1

TOP SECRET CHESS RUFF

ditches, which began in the older operational support area at a probable pumphouse.

Coverage [] revealed 8 rectangular excavations approximately 125 by 50 feet along the ditch system. By [] January 1965, these excavations had apparently been backfilled and 3 unidentified objects topped 5 of them.

A ditch line connecting 4 of the backfilled excavations continues west-northwest for approximately 2 nautical miles (nm) to a small, fence-enclosed area approximately .25 nm southeast of the airfield. Within this fenced area are a building approximately 20 by 15 feet, and a circular probable burn pit.

Key to annotations in Figure 8:

Item No	Size (ft approx)	Description (all buildings single story unless otherwise noted.)
1	160 x 60	Gable-roofed, probable storage
2	95 x 15	Gable-roofed, possible storage
3	95 x 15	Gable-roofed, possible storage
4	160 x 60	Gable-roofed, probable storage
5	160 x 60	Gable-roofed, probable storage
6	45 x 30	Flat-roofed, unidentified
7	30 x 25	Flat-roofed, unidentified
8	175 x 80	Gable-roofed, high center bay 175 x 50 feet, 2 shed-roofed side shops 175 x 15 feet; drive through
9	25 x 25	Flat-roofed, probable pumphouse
10	120 x 50	Gable-roofed, probable drive-through high bay 120 x 25, shed-roofed shop section 120 x 25
11	115 x 50	Gable-roofed, probable drive-through high bay 115 x 25, shed-roofed shop 115 x 25
12	80 x 50	Gable-roofed, high bay 80 x 25, shed-roofed shop 80 x 25
13	85 x 35	Flat roof
14	120 x 85	Building completed since Jan 65, gable-roofed, probable vehicle maintenance
15	120 x 85	Building under construction
16	95 x 15	Gable-roofed, unidentified
17	145 x 55	Gable-roofed, probable barracks

Item No	Size (ft approx)	Description (All buildings are single story unless otherwise noted)
18	50 x 20	Building completed since Jan 65
19	60 x 45	Security building with 20 x 10 extension
20	145 x 35	Gable-roofed, modified T-shape
21	50 x 30	Gable-roofed
22	90 x 40	T-shaped, heatplant, stem 50 x 40

INSTRUMENTATION AND ELECTRONICS FACILITIES

Instrumentation Sites

The instrumentation pattern at Emba consists of at least 9 instrumentation sites in a typical spreading launch, or rangehead, instrumentation pattern. This pattern extends down-range generally south for approximately 35 nm. While the pattern is generally typical of rangehead instrumentation the extent of facilities at the majority of the sites is greater than that observed at the sites at the other missile test centers in the USSR and China.

At least 2 different types of sites can be identified, as well as a combination, at the Instrumentation Control Center, Instrumentation Site 2 (Figure 9), which contains both types of facilities. A 70- by 40-foot building with 4 antenna mounts or small domes on the roof is similar to Instrumentation Sites 5 and 10; and the four 20-foot diameter standard range instrumentation domes and the central 150- by 50-foot control building are similar to the facilities at Instrumentation Sites 6, 7, 8, and 9. The relationship of these sites is discussed in NPIC/R-191/64. 1/

Only Instrumentation Sites 1, 2, 3, 5, and 10 are covered [] January 1965). Also observed was the location of what was formerly believed to be Instrumentation Sites 4 and 11. These can now be seen to be junctions or bends in instrumentation cable lines. Instrumentation Sites 1 and 3 appear to be merely positions for mobile equipment.

TOP SECRET CHESS RUFF

TOP SECRET CHESS RUFF

Photography of May 1965 [] gives coverage of Instrumentation Sites 1, 2, 5, 9, and 10. No significant changes can be noted []

Key to annotations in Figure 9:

Item No	Size (ft approx)	Description (All buildings are single story unless otherwise noted)
1	70 x 40	Gable-roofed, 4 antennas/electronic mounts on roof
2	150 x 50	Gable-roofed, control building
3	100 x 30	Gable-roofed, unidentified
4	25 x 20	Flat-roofed, unidentified
5	20 x 15	Flat-roofed, unidentified
6	50 x 30	Flat-roofed, unidentified
7	45 x 30	Flat-roofed
8	35 x 20	Flat-roofed, unidentified
9	90 x 30	Stepped, flat-roofed with adjacent stack, heatplant

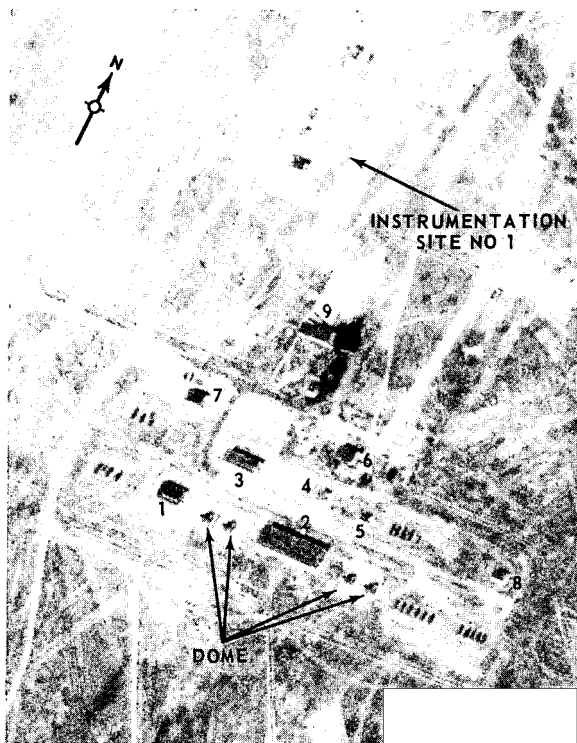


FIGURE 9. INSTRUMENTATION SITE 2. Key to annotations in accompanying text.

At least 15 vehicles/pieces of equipment are parked along the front line of domes and buildings, 14 at the eastern end and 1 at the western. In addition 10 other unidentified vehicles/pieces of equipment are visible within the site.

Instrumentation Sites 5 and 10 can be seen [] to be similar and are positioned on either side of the instrumentation pattern. Each site consists of an approximately 70- by 40-foot building, with 4 antennas/mounts or small domes on the roof, and are apparently identical with a building in Instrumentation Site 2. Sites 5 and 10 are both apparently aligned on a parallel azimuth with the launch pads. The 4 antennas/mounts or small domes on each building are on the side of the gable roof toward the center of the instrumentation pattern. Cable scars connect these sites with the next downrange sites and probably with Instrumentation Site 2.

Electronics Site

The Emba Electronics Site (Figure 10), formerly called Near Space Tracking and Telemetry Receiving Site, has had no apparent change in facilities since [] (December 1963) but the larger scale photography [] allows greater determination of facilities present within the site.

The single-fenced site is located on a hill mass approximately 6.5 nm northeast of the Launch Area and approximately 6.5 nm southeast of the Operational Support Area. The fence measures 1,210 by 1,055 feet.

The east-west row of 6 earth-mounded radar/telemetry antenna positions is occupied as seen [] with the 2 larger outside mounds having larger antennas than the inner 4. No specific antenna types can be identified. The azimuth of a perpendicular to a line connecting the mounds approximately parallels the azimuth of a line through the launch pads, but is farther to the east.

Contained within the site as seen on [] [] are approximately 30 vehicles/pieces of equipment.

TOP SECRET CHESS RUFF

TOP SECRET CHESS RUFF

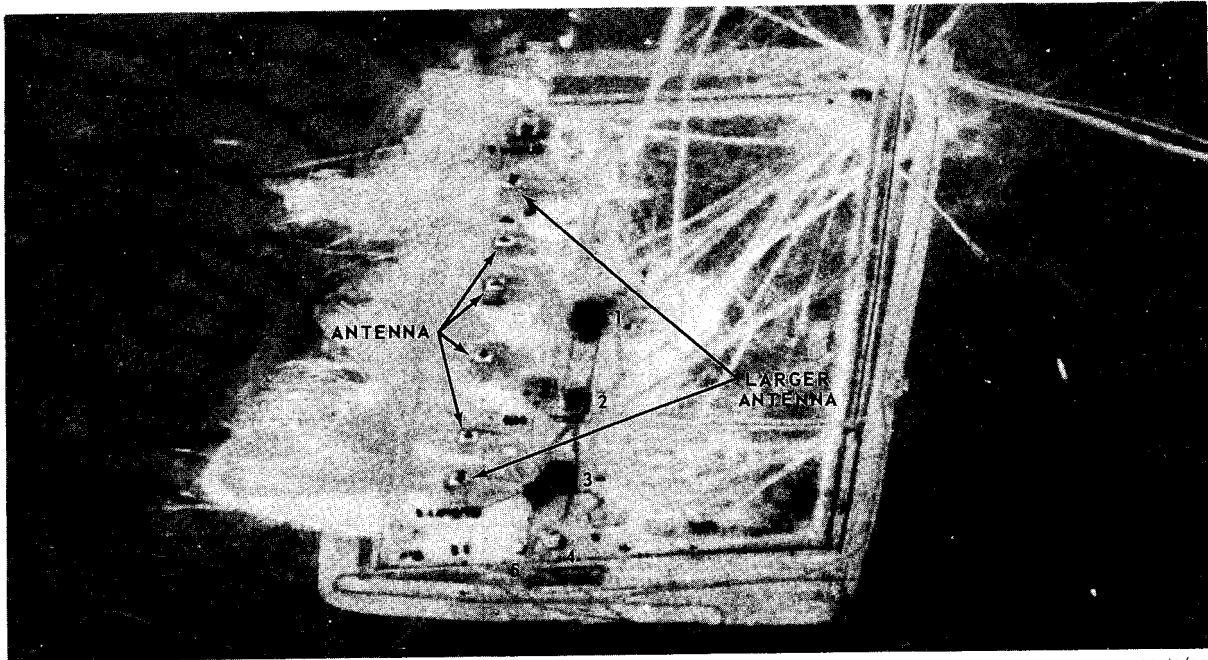


FIGURE 10. ELECTRONICS SITE.

NPIC K-4628 (9/65)

Key to annotations in Figure 10:

Item No	Size (ft approx)	Description
1	65 x 60	Gable-roofed, electronics function
2	60 x 45	Flat-roofed, top-mounted object approx [redacted] electronics function
3	65 x 60	Gable-roofed, electronics function
4	35 x 20	Gable-roofed, support building
5	30 x 20	Gable-roofed, security gatehouse

ADMINISTRATIVE AND LOGISTICAL SUPPORT FACILITIES

Support Area A

Located 4 nm south-southwest of Emba, Support Area A (Figure 11) is composed of an administration/housing section, a barracks/warehouse section, 2 motor pool/storage yards, 2 sets of rail spurs, 3 open storage areas, and several

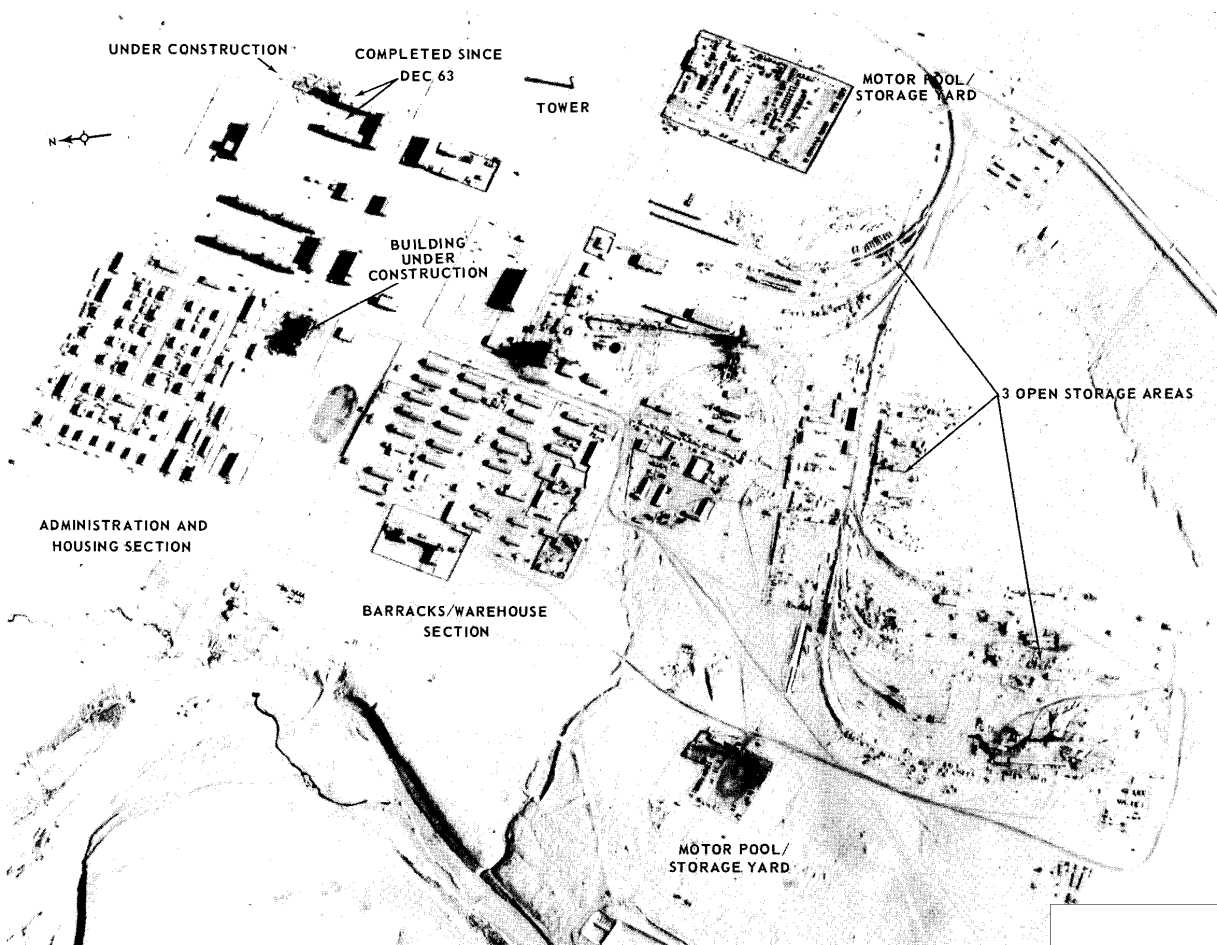
additional buildings/structures.

New construction within Support Area A since December 1963 [redacted] consists of 2 multistory administration/housing buildings, completed by January 1965 [redacted] and 2 others under construction which were completed by May 1965 [redacted]. Two motor pools/storage yards are no longer present on photography [redacted]. Approximately 225 vehicles/pieces of equipment were located in the motor pools/storage yards [redacted] photography and at least 265 were present on photography [redacted]. Approximately 55 pieces of railroad equipment are located within the area, and additional railroad equipment is adjacent to the support area.

Support Area B

Support Area B (Figure 12), located approximately 3 nm north-northeast of the Launch Area and 8 nm south-southwest of the Operational Support Area, on the larger scale photography [redacted] appears to be the remnants of former agricultural and con-

TOP SECRET CHESS RUFF



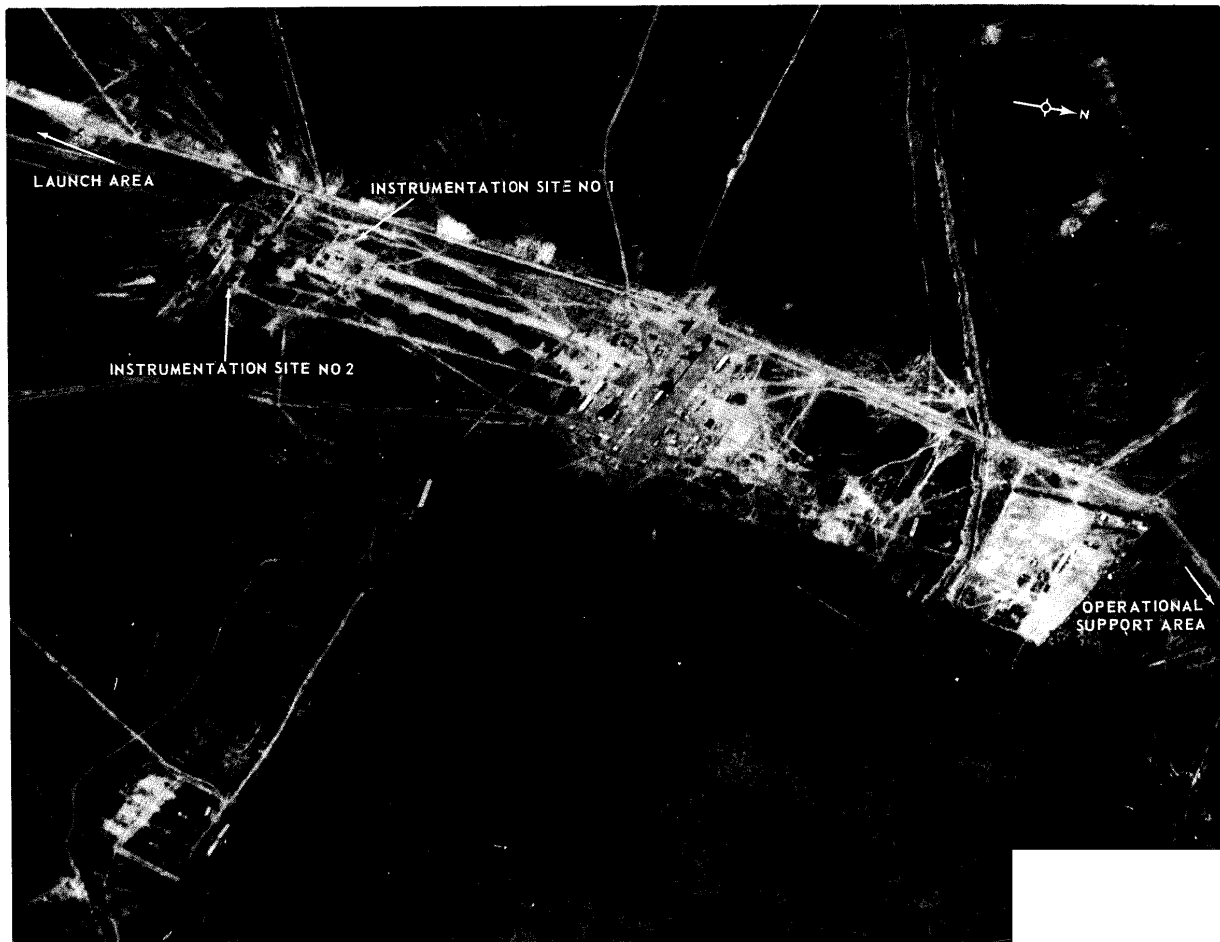
25X1

TOP SECRET CHESS RUFF

25X1

25X1

25X1



NPIC K-4630 (9/65)

FIGURE 12. SUPPORT AREA B.

TOP SECRET CHESS RUFF

TOP SECRET CHESS RUFF

TOP SECRET CHESS RUFF

25X1

struction areas and presently supplies quarters for personnel in the Emba installation. No apparent change in facilities has taken place since (December 1963.)

A road from the Emba Airfield runs past a cleared strip to a point just north of Support Area B, where it connects with the road between the Operational Support Area and Support Area B.

Emba Airfield

Just south of Support Area A and 6.5 nm

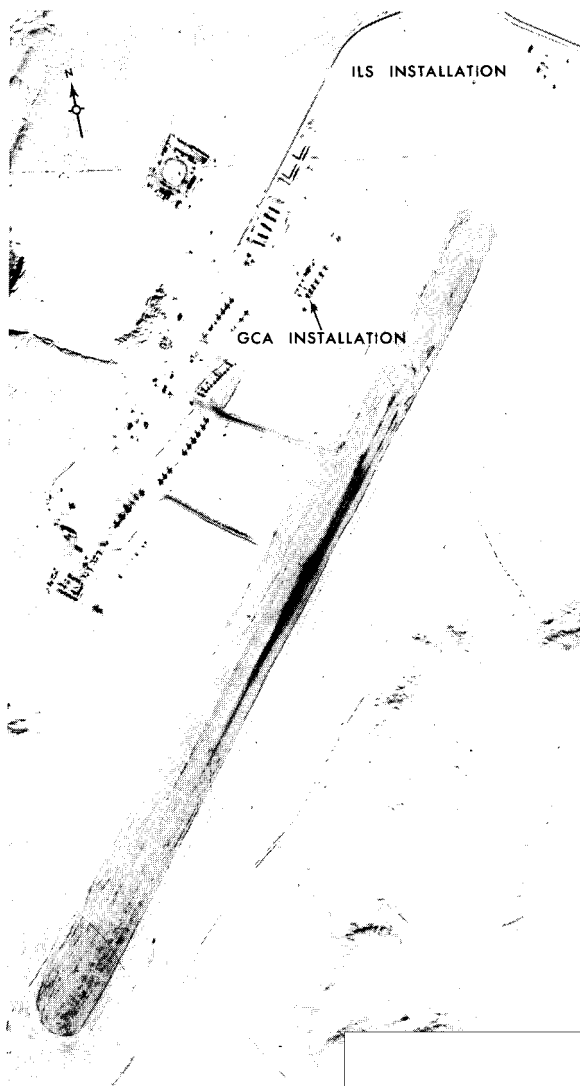


FIGURE 13. EMBA AIRFIELD.

NPIC K-4631 (9/65)



FIGURE 14. CLEARED STRIP.

NPIC K-4632 (9/65)

TOP SECRET CHESS RUFF

25X1

25X1

25X1

TOP SECRET CHESS RUFF

southwest of Emba is the Emba Airfield (Figure 13). On good-quality photography of January 1965 [] the snow-cleared portion of the runway measures 10,750 by 670 feet. Aircraft observed [] are 1 HOOK, 1 probable HARE, 16 BEAGLE, 3 CAB, 1 COLT, and 14 FAGOT/FRESCO. On Mission 4017 are 1 HOOK, 4 HARE, 1 possible HARE, 13 BEAGLE, 20 FAGOT/FRESCO, 4 CAB, and 3 small straight-wing type. An instrument landing system installation is positioned approximately 1,800 feet northeast of the runway, and a ground control approach system is located to the north. All other facilities of the airfield remain unchanged since December 1963 []

Cleared Strip

A cleared strip (Figure 14) has been added since October 1962 and is located approximately 4.75 nm southwest of the Emba Airfield. It has an approximate north-northwest/south-southeast

orientation, as opposed to the northeast-southwest orientation of the Emba Airfield.

Measurements obtained [] give a maximum length of 13,220 feet, width of 1,045 feet, and a cleared strip resembling a parallel taxiway measuring 10,060 []. Two scars/ditches parallel the strip and taxiway and have a 2,660-foot separation; there is approximately 350 feet separation between the strip and taxiway. This cleared strip was first present on coverage [] but because of snow was not apparent until coverage [] (June 1964). On coverage of [] (September 1964) [] November 1964) scraping or clearing was underway on the main cleared strip. No change was noted and the scraping was not completed by May 1965 []. A road connecting the Emba Airfield and Support Area B runs alongside the cleared strip.

REFERENCES**TOP SECRET CHESS RUFF**

TOP SECRET CHESS RUFF

25X1
ZSAI

25X1

MAPS OR CHARTS

- AMS. Emba, Sheet NM40A, Strategic Area Series, Series DESPA-2, Edition 1, Nov 64, scale 1:250,000 (TOP SECRET RUFF)
- AMS. Koktyubek, Sheet NM40-11, Western Siberia, Series DESPA-1, Edition 1, Nov 63, scale 1:250,000 (TOP SECRET RUFF)
- AMS. Zharkamys, Sheet NL40-2, USSR, Series DESPA-1, Edition 1, Nov 63, scale 1:250,000 (TOP SECRET RUFF)
- AMS. Chelkar, Sheet NL40-3, USSR, Series DESPA-1, Edition 1, Oct 63, scale 1:250,000 (TOP SECRET RUFF)

DOCUMENTS

1. NPIC. R-191/64, *Emba Missile-Associated Installation, USSR, Changes Since October 1962*, Mar 64 (TOP SECRET CHESS RUFF)
2. NPIC. R-159/63, *Missile-Associated Facility Near Emba, USSR*, Jul 63 (TOP SECRET CHESS RUFF)

REQUIREMENT

CIA. C-RR5-82,275

NPIC PROJECT

11147/65

TOP SECRET CHESS RUFF

25X1

TOP SECRET

TOP SECRET